



ENGINEERED TO PREVENT  
CONDENSATION

# ArmaFlex Class 1

Built-in water vapour barrier to reduce  
risk of corrosion under insulation.

- // Class 1 fire classification according to BS476 Part 7
- // Minimise long-term heat gain and reduce energy cost
- // Closed-cell structure increases resistance to water vapour



 **armacell**<sup>®</sup>  
ArmaFlex<sup>®</sup>

ENGINEERED TO PREVENT CONDENSATION

# ArmaFlex Class 1

Built-in water vapour barrier to reduce risk of corrosion under insulation (CUI). Conserves energy and reduces heat loss. Class 1 fire classification according to BS476 Part 7. Certified by leading international fire safety agencies. Fibre-free.

Easy to install



Prevent condensation



Reliable performance



## // Closed-cell structure

Minimises moisture permeation to ensure long-term protection against corrosion under insulation. Removes the need for an additional water vapour barrier.

## // Good fire performance

FM Approved for entire range of insulation thickness. Certified to conform to safety, reliability and performance standards of various local fire safety bodies.

## // Energy efficient

Low thermal conductivity minimises energy losses to give long term energy savings.

## // Environmentally safe

Zero Ozone Depletion Potential and Global Warming Potential; rated "Excellent" by Singapore Green Building Council.

## // Safer indoor air quality

Free of fibre and formaldehyde, and GREENGUARD® Gold certified for low emissions of volatile organic compounds.

## // Easy-to-install

Highly flexible elastomeric foam that can be installed quickly on irregular shapes and installations in tight spaces.



## TECHNICAL DATA - ARMAFLEX CLASS 1

Brief description	ArmaFlex Class 1 is a flexible insulation material that reliably protects against water vapour ingress due to its closed-cell structure. No additional water vapour barrier is required.
Material type	Flexible elastomeric foam based on synthetic rubber (NBR).
Product colour range	Black
Special features	Engineered wall: increasing insulation wall thickness for tubes ensures that the surface temperature is maintained as the pipe diameter is increased.
Applications	Thermal insulation/protection of pipes, air ducts and vessels (incl. elbows, fittings, flanges etc.) in air conditioning, refrigeration and process equipment to prevent condensation and to save energy. Structure-borne noise reduction in service-water and waste-water installations.
Installation	Please refer to the ArmaFlex application manual for advice. ArmaFlex can be used together with ArmaFlex 520 adhesive and ArmaFix pipe hangers for a complete insulation system.

Property	Value / Assessment				Standard / Test method
<b>Temperature range</b>					
Service temperature	Min. °C	Max. °C			
	-50	105			
	Remarks	+85 °C if sheet is glued to the object with its whole surface.			
<b>Thermal conductivity</b>					
Declared thermal conductivity	Øm	-20 °C	0 °C	25°C	GB/T 10295, GB/T 10296, ASTM C518, EN ISO 8497
	$\lambda d \leq [W/(m \cdot K)]$	0.032	0.034	0.036	
<b>Fire Performance and Approvals</b>					
Surface spread of flame	Class 1				BS 476 Part 7
FM approved	Yes				FM 4924
<b>Flammability</b>					
Flammability of plastic materials	V-0 rating				UL 94
<b>Fire performance</b>					
Practical fire behaviour	Does not generate flaming droplets.				
Others	Product conforms to requirements for building products under the Fire Safety and Shelter Department of Singapore.				
<b>Resistance to water vapour</b>					
Water vapour diffusion resistance factor	$\mu \geq 10,000$				GB/T 17146, EN 12086, EN 13469
Water vapour permeability	$\leq 1.96 \times 10^{-11} \text{ g}/(\text{m} \cdot \text{s} \cdot \text{Pa})$				GB/T 17146, EN 12086, EN 13469
<b>Resistance to water</b>					
Water absorption by vacuum	$\leq 0.5\%$ by volume				GB/T 17794
<b>Mechanical properties</b>					
Resilience after compression relief	$\geq 70\%$				GB/T 6669
<b>Weather and UV resistance</b>					
UV resistance	For UV protection, ArmaFinish Paint or Arma-Chek® covering system is required. For outside use, ArmaFlex should be protected within three days of installation.				

Property	Value / Assessment	Standard / Test method
<b>Health and environment</b>		
Health aspects	Free of fibre and formaldehyde. Low Volatile Organic Compounds (VOC), low total aldehyde. GREENGUARD Gold for even lower VOC and total chemical emissions.	UL 2818
Environmental aspects	Zero ODP and GWP.	
Environmental Product Declaration (EPD)	Type III EPD: Declaration number 4789125188.101.1, UL Environment.	
Green building assessment	Singapore Green Building Product Certified: "Excellent" rating.	
<b>Other technical features</b>		
Chemical resistance	Please consult product test list.	
Shelf life	Self-adhesive sheets, tubes and tapes: 1 year	
Storage	Material shall be stored in dry, clean rooms at normal relative humidity (50% to 70%) and ambient temperature (0°C to 35 °C).	

Adhesives and Cleaners

Item	Description	Content [quantity]
AS-AD5201E	4 cans of 1 Gallon (3.78litres) ArmaFlex 520 adhesive in a carton	4 tin
AS-AD520HL	12 cans of 500mL ArmaFlex 520 adhesive in a carton	12 tin

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## ABOUT ARMACELL

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As the inventor of flexible foam for equipment insulation and a leading provider of engineered foams, Armacell develops innovative and safe thermal and mechanical solutions that create sustainable value for its customers. Armacell's products significantly contribute to global energy efficiency making a difference around the world every day. With more than 3,300 employees and 25 production plants in 19 countries, the company operates two main businesses, Advanced Insulation and Engineered Foams. Armacell focuses on insulation materials for technical equipment, high-performance foams for acoustic and lightweight applications, recycled PET products, next-generation aerogel technology and passive fire protection systems.



For more information, please visit:  
[www.armacell.com](http://www.armacell.com)